

services.* The Panel is chaired by Dr. Michael DeBakey, a long-time proponent of improved medical** information services and the former chairman of the 1965 President's Commission on Heart Disease, Cancer, and Stroke. The Regents sought a plan that would address the need to increase the awareness of prospective users; suggest strategies for removing obstacles to access; and propose mechanisms to insure the maximum relevance of NLM's diverse array of information products and services. A new and revitalized partnership with the Regional Medical Library Network has emerged as the backbone of the plan; and modern computer and information technology is the sinew that gives it strength.

The Panel's recommendations, along with estimated incremental budget requirements (using FY 1989 as a base), are presented in the following sections:

- The individual and the RML network.
- Strengthening hospital access to national information sources through resource grants to small hospital libraries, support for the Integrated Academic Information Management Systems (IAIMS) program, and participation in the emerging national electronic communications networks, such as NSFNET.
- Expanding training, fellowships, and demonstration grants.
- Expanding intramural R&D at NLM, including studies about the users and uses of its products and services, and the development of new or enhanced information products and services to meet the needs of health professionals.

* The Outreach Panel is composed of 31 leading medical educators, scientists, health professionals, medical librarians, and marketing specialists (see Appendix for panel roster). The Panel met three times between November 1988 and March 1989.

** In this report "medical" is meant to be generic and inclusive of all health professions.

1. The Individual and the Regional Medical Library Network

The Challenge. The RML Program, funded under the Medical Library Assistance Act and its subsequent renewals, has played a vital role in improving access by creating a functioning network of medical libraries serving all fifty states.

The networking of medical libraries was a success; the next step, not accomplished to date, is for NLM and all of the libraries in the RML network (RMLs, resource libraries, and local libraries) to establish direct contact with the whole spectrum of health professionals who are the ultimate users of biomedical information services, thus incorporating the *individual* health practitioner within the *institutional* network.

Twenty years' experience has proved the soundness of the strategy that led to the development of a national system of RMLs, each with facilities of sufficient depth and scope to support the services of other medical libraries in the region it serves, and providing health professionals with effective, timely access to biomedical information. A new and revitalized RML Program must offer high quality products and services that satisfy all health professionals' needs, efficiently and at a reasonable cost, and that continue to serve an ever-changing market. In a new alliance, RMLs and the libraries in their regions can act as representatives and agents for NLM information products and services. Under NLM leadership, the RMLs must be able to assist NLM in developing such products and services and in creating a marketing strategy and "field force" for distributing them. The RMLs and their constituent libraries will also supply NLM with feedback and information concerning how information is being used, new ideas for products and services, etc. Information and ideas should flow both out from NLM through the RMLs and network li-

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braries to health professionals, and back the other way. A two-way communications process is needed.

Today, nearly 3,000 medical libraries have identified themselves as RML network members and have agreed to provide services to help health professionals identify, locate, and obtain needed information. Most, but not all, are connected in this national network by terminals and microcomputers, and a growing number by telefacsimile machines. Because of the widespread availability of these increasingly sophisticated devices in health professionals' places of work and homes and the simplification of electronic access to information resources, the time is opportune for the RML Program to take the next logical step and directly connect health professionals electronically to this network of medical libraries and online resources.

The goal of a newly energized national RML Program is to bring biomedical information resources similar to those available in the best academic medical centers within easy reach of health professionals, especially those in rural areas and inner cities currently without easy direct access. The objective is to show each health professional how NLM systems might improve his or her access to biomedical information. Staff in network libraries will initially explain available resources and the systems used to access

them, and subsequently will be available to provide assistance and obtain suggestions for improvements or new products. The national RML Program will be able to initiate innovative programs and new uses of the network.

The national RML Program will depend on the programs and services of NLM, a major regional biomedical library resource in each region, a small staff in each of these regional libraries to provide coordination and outreach activities, and the thousands of medical libraries in the network. These library resources in the network should continue to be strengthened, their staffs trained to use the systems and reach users, and the systems connecting them strengthened. Each health professional should have the opportunity to connect to the most comprehensive up-to-date biomedical information systems in the world.

Recommended Action. *NLM and the RMLs should build a more active partnership for a national RML Network, one that will be flexible and permit rapid response to regional needs, geographic factors and changing environmental conditions. The emphasis of the new national Program should be to bring biomedical information resources within easy reach of all health professionals, especially those individuals in areas that do not currently have direct access. To do this, the*

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RMLs should act as a "field force" for NLM products and services, providing information and services to health professionals directly and through network libraries, and providing feedback from health professionals to NLM. The Panel estimates that an increment of \$2 million in FY 1990, increasing to \$6 million in FY 1991, is required to enable the RMLs to marshal the resources necessary to reach health professionals, to gather specific observations on their information needs, to demonstrate the use of existing relevant information products and services, and to function effectively as an integrated national network.

Following are the detailed actions that will accomplish this recommendation:

A. Assist in connecting health professionals to the RML Network by:

Making them aware of available information resources, methods of accessing them, and ways they can be useful;

Promoting NLM products;

Conducting and publicizing training classes;

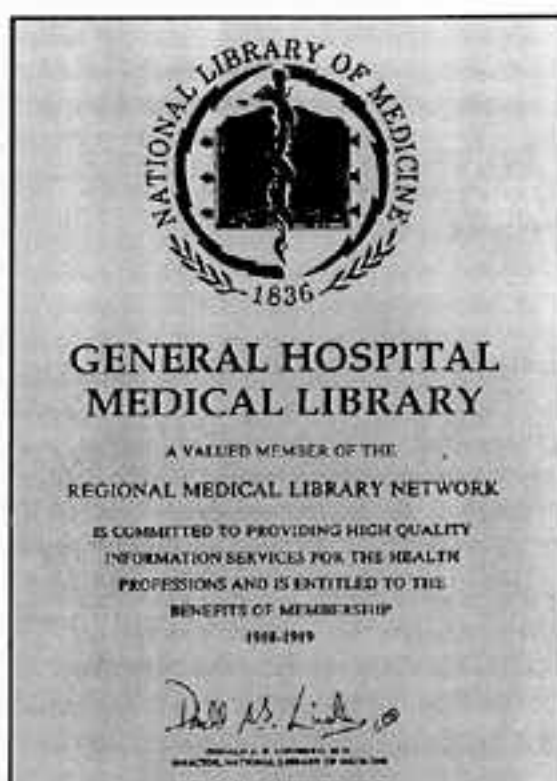
Providing a means for health professionals unaffiliated with a library to request the loan of books and journal articles ("document delivery");

Implementing high-speed electronic systems to improve document delivery to users;

Developing and maintaining regional information resource files;

Providing user support through expansion of the existing NLM online service desk; and

Conducting evaluation studies and needs assessments to provide NLM with information on and suggestions for new NLM products and services, and on the use of information by health professionals.



B. Improve the capabilities of the libraries in the network by:

Expanding services to strengthen libraries that are not operating as full network members;

Strengthening the network links among health science libraries to assist them in becoming NLM's "field force" in introducing health professionals to NLM products and services;

Evaluating new NLM systems and databases as they become available; and

Collecting data on the network libraries to determine trends and significant changes in their ability to assist health professionals.

C. Encourage technology transfer and research by:

Introducing the use of and evaluating new NLM products and services in operational (i.e., health care) environments;

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Disseminating information about the latest technology developments to health information providers and health professionals;

Facilitating and supporting medical informatics research efforts throughout the region;

Serving as resource points for information about NLM grants; and

Providing an annual technology update from NLM.

- D. Improve the RML Network's ability to serve increased numbers of health professionals by:

Reviewing the current RML mission and goal statements for possible modifications to emphasize the Network's increasing role in actively reaching health professionals;

Studying the configuration of the RML Network, in light of its new emphasis, for possible modification;

Changing the name of the network to reflect its national structure and direction;

Improving the understanding of each RML Regional Advisory Committee of national services and priorities; and

Improving the communications among network members and with NLM.

Recommended Resources. The following table shows recommended appropriations to strengthen the RML Program. Although additional funds are required in FY 1990 for the planning and contract award phases, the major increment is scheduled for FY 1991 because of the timing of the RML contract cycle.

Incremental Dollars in Millions					
Regional Medical Library Network					
	FY 90	FY 91	FY 92	FY 93	FY 94
Assist in connecting health professionals	\$1.0	\$2.0	\$2.2	\$2.5	\$3.0
Improve capabilities of libraries in network	0.0	1.5	1.6	2.0	2.0
Encourage technology transfer/research	0.0	2.0	2.2	2.5	2.5
Improve ability to serve more health professionals	1.0	0.5	0.5	0.5	0.5
Total	\$2.0	\$6.0	\$6.5	\$7.5	\$8.0
FTEs ¹²	3	3	3	3	3

2. Strengthening Hospital Access to National Information Sources

The Challenge. Information resources at a national and international level are growing at a faster rate than the ability of local medical libraries and medical institutions to use them. Shrinking library holdings and collections at the local level, the lack of communications specialists in smaller institutions, and the scarcity of appropriate communications equipment and computers locally are creating a grave danger of isolation of local medical facilities from the growing national—and even international—information capability.

Resource Grants to Small Hospital Libraries

At the local level, NLM has implemented a new generation of Resource Grants to significantly improve the access of community-based hospital libraries to information. The evolution of the Resource Grant Program has consistently mirrored changing national needs and evolving technological capabilities. Today, Information Access Grants are